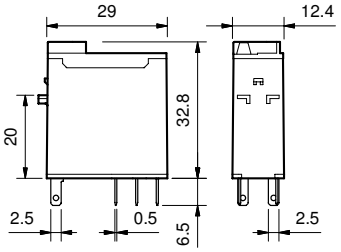
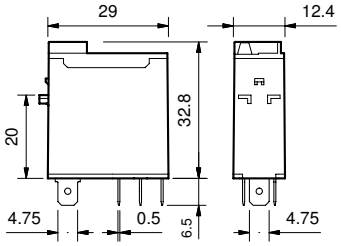
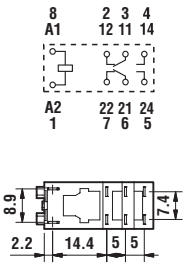
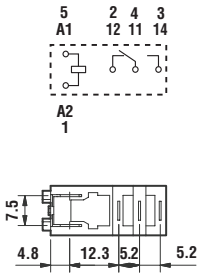
Features

1 & 2 Pole relay range
46.52 - 2 Pole 8 A
46.61 - 1 Pole 16 A

- Socket mount or direct connection via Faston connectors
- AC coils & DC coils
- Available with: lockable test button, mechanical indicator & LED indicator
- 8 mm, 6 kV (1.2/50 µs) isolation, coil-contacts
- Cadmium Free contacts

	46.52	46.61
		
	• 2 Pole CO, 8 A • Plug-in/Solder terminals	• 1 Pole CO, 16 A • Plug-in/Faston 187
	 46.52  46.61	 

For UL Horsepower and Pilot Duty ratings
See "General technical information" page V

Contact specification			
Contact configuration		2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	8/15	16/25
Rated voltage/Maximum switching voltage	V AC	250/440	250/440
Rated load AC1	VA	2,000	4,000
Rated load AC15 (230 V AC)	VA	350	750
Single phase motor rating (230 V AC)	kW	0.37	0.55
Breaking capacity DC1: 30/110/220 V	A	6/0.5/0.15	12/0.5/0.15
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi
Coil specification			
Nominal voltage (U_N)	V AC (50/60 Hz)	12 - 24 - 48 - 110 - 120 - 230 - 240	
	V DC	12 - 24 - 48 - 110 - 125	
Rated power	VA/W	1.2/0.5	1.2/0.5
Operating range	AC	$(0.8...1.1)U_N$	$(0.8...1.1)U_N$
	DC	$(0.73...1.1)U_N$	$(0.73...1.1)U_N$
Holding voltage	AC/DC	$0.8U_N$ /$0.4U_N$	$0.8U_N$ /$0.4U_N$
Must drop-out voltage	AC/DC	$0.2U_N$ /$0.1U_N$	$0.2U_N$ /$0.1U_N$
Technical data			
Mechanical life AC/DC	cycles	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	10/3	15/5
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000
Ambient temperature range	°C	–40 ... +70	–40 ... +70
Environmental protection		RT II	RT II
Approvals (according to type)			

Ordering information

Example: 46 series Miniature industrial relay, 1 CO (SPDT), 24 V DC coil, lockable test button and mechanical indicator.

								A	B	C	D		
4	6	.	6	1	.	9	.	0	2	4	0	0	4	0

Series

Type
5 = Spade/blade solder terminal (2.5x0.5)mm
6 = Spade/blade terminal Faston 187 (4.8x0.5)mm

No. of poles
1 = 1 pole, 16 A
2 = 2 poles, 8 A

Coil version
9 = DC
8 = AC (50/60 Hz)

Coil voltage
See coil specifications

A: Contact material
0 = AgNi
4 = $AgSnO_2$ (46.61 only)
5 = AgNi + Au (5 µm)

B: Contact circuit
0 = CO (nPDT)

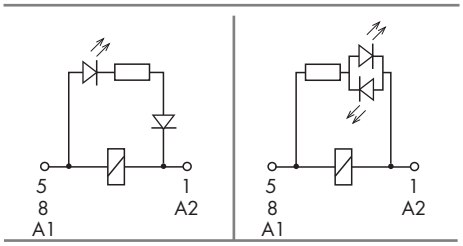
D: Special versions
0 = Standard

C: Options
2 = Mechanical indicator
4 = Lockable test button + mechanical indicator
54 = Lockable test button + LED (AC) + mechanical indicator
74 = Lockable test button + double LED (DC non-polarized) + mechanical indicator

Selecting features and options: only combinations in the same row are possible.
Preferred selections for best avaliability are shown in **bold.**

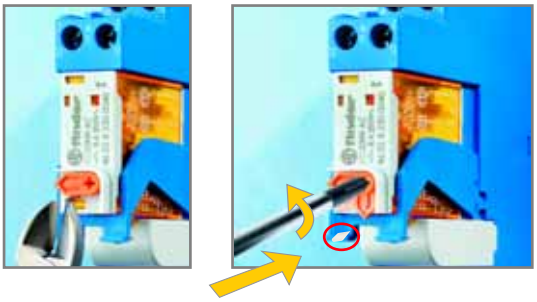
Type	Coil version	A	B	C	D
46.52	AC - DC	**0** - 5	**0**	2 - **4**	**0**
	AC	0 - 5	0	54	/
	DC	0 - 5	0	74	/
46.61	AC - DC	**0** - 4 - 5	**0**	2 - **4**	**0**
	AC	0 - 4 - 5	0	54	/
	DC	0 - 4 - 5	0	74	/

Descriptions: Options



C: Option 54
LED (AC)

C: Option 74
LED (DC, non-polarized)



Lockable test button and mechanical flag indicator (0040, 0054, 0074)

The dual-purpose Finder test button can be used in two ways:

Case 1) The plastic pip (located directly below the test button) remains intact. In this case, when the test button is pushed, the contacts operate. When the test button is released the contacts return to their former state.

Case 2) The plastic pip is broken-off (using an appropriate cutting tool). In this case, (in addition to the above function), when the test button is pushed and rotated, the contacts are latched in the operating state, and remain so until the test button is rotated back to its former position.

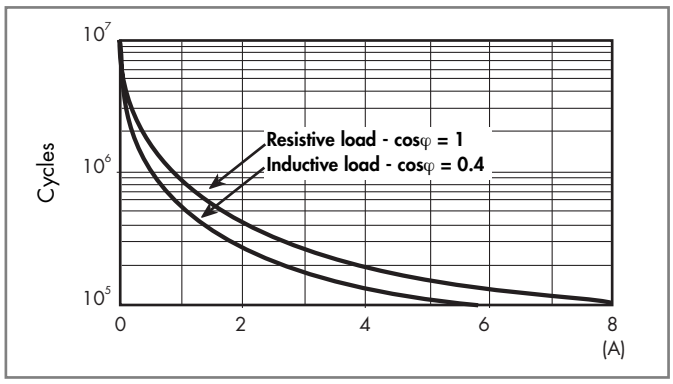
In both cases ensure that the test button actuation is swift and decisive.

Technical data

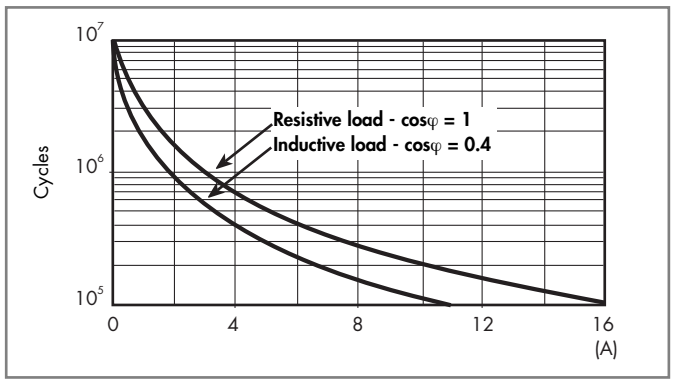
Insulation according to EN 61810-1:2004						
			1 pole		2 pole	
Nominal voltage of supply system		V AC	230/400		230/400	
Rated insulation voltage		V AC	250	400	250	400
Pollution degree			3	2	3	2
Insulation between coil and contact set						
Type of insulation			Reinforced (8 mm)		Reinforced (8 mm)	
Overvoltage category			III		III	
Rated impulse voltage		kV (1.2/50 µs)	6		6	
Dielectric strength		V AC	4,000		4,000	
Insulation between adjacent contacts						
Type of insulation			—		Basic	
Overvoltage category			—		III	
Rated impulse voltage		kV (1.2/50 µs)	—		4	
Dielectric strength		V AC	—		2,000	
Insulation between open contacts						
Type of disconnection			Micro-disconnection		Micro-disconnection	
Dielectric strength		V AC/kV (1.2/50 µs)	1,000/1.5		1,000/1.5	
Conducted disturbance immunity						
Burst (5...50)ns, 5 kHz, on A1 - A2			EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 µs) on A1 - A2 (differential mode)			EN 61000-4-5		level 3 (2 kV)	
Other data			**46.61**		**46.52**	
Bounce time: NO/NC		ms	2/6		1/4	
Vibration resistance (10...150)Hz: NO/NC		g	20/12		20/15	
Shock resistance		g	20		20	
Power lost to the environment	without contact current	W	0.6		0.6	
	with rated current	W	1.6		2	

Contact specification

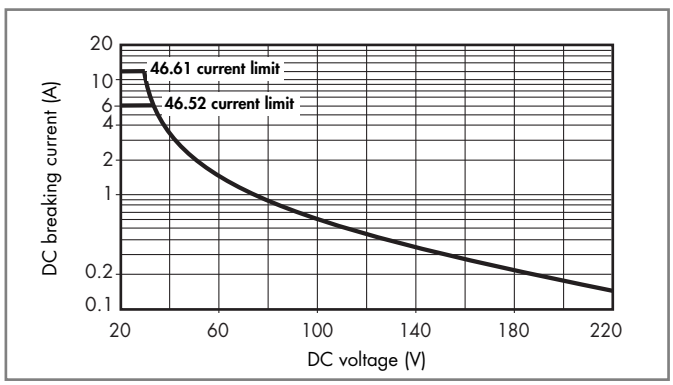
F 46 - Electrical life (AC) v contact current
Type 46.52



F 46 - Electrical life (AC) v contact current
Type 46.61



H 46 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ 100·10³ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
  Note: the release time for the load will be increased.

Coil specifications

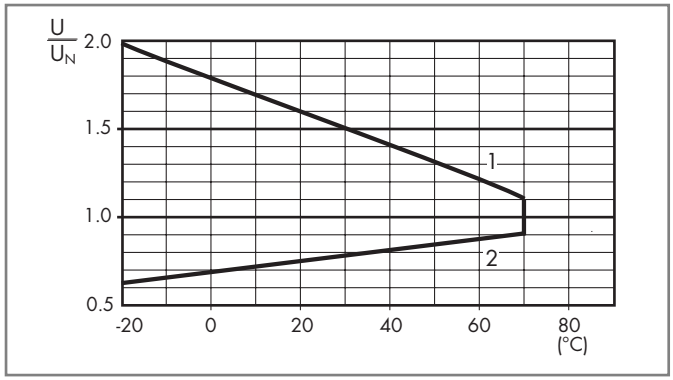
DC coil data

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
12	**9**.012	8.8	13.2	300	40
24	**9**.024	17.5	26.4	1,200	20
48	**9**.048	35	52.8	4,800	10
110	**9**.110	80	121	23,500	4.7
125	**9**.125	91.2	137.5	32,000	3.9

AC coil data

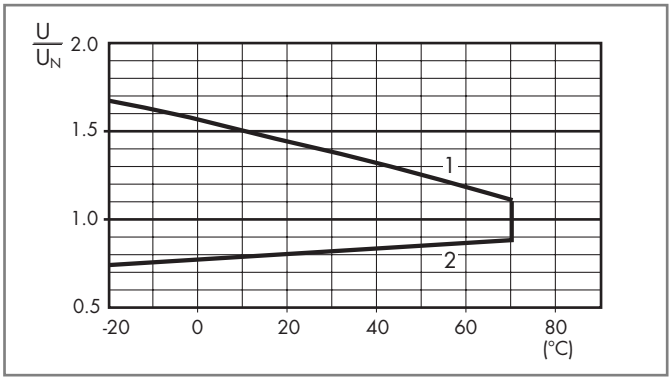
Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
12	**8**.012	9.6	13.2	80	90
24	**8**.024	19.2	26.4	320	45
48	**8**.048	38.4	52.8	1,350	21
110	**8**.110	88	121	6,900	9.4
120	**8**.120	96	132	9,000	8.4
230	**8**.230	184	253	28,000	5
240	**8**.240	192	264	31,500	4.1

R 46 - DC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

R 46 - AC coil operating range v ambient temperature



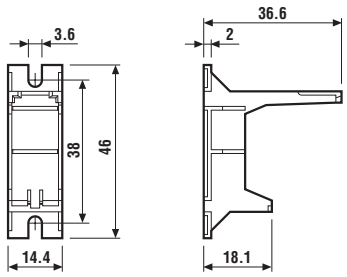
1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Accessories

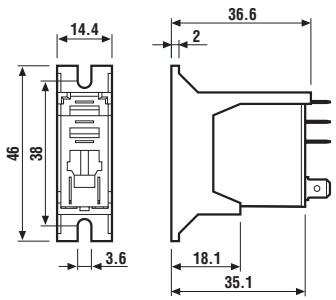

046.05


046.05 with relay

Flange mount adaptor for relays types 46.52 and 46.61 — 046.05



046.05

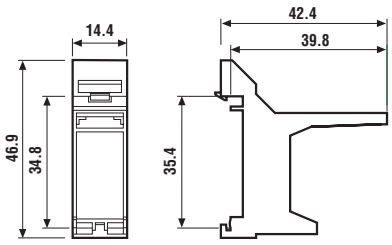


046.05 with relay

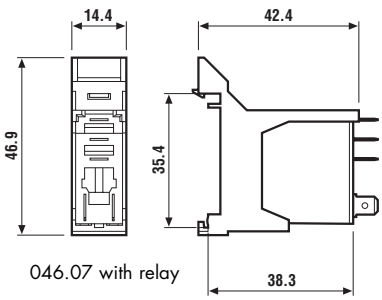

046.07


046.07 with relay

35 mm rail adaptor for relays types 46.52 and 46.61 — 046.07



046.07



046.07 with relay


060.72

Sheet of marker tags for relays types 46.52 and 46.61 (72 tags), 6x12mm — 060.72

97 Series - Sockets and accessories for 46 series relays

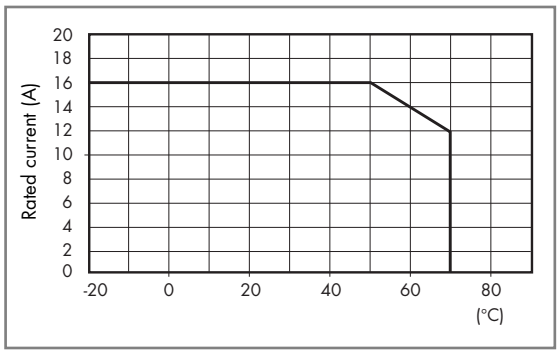


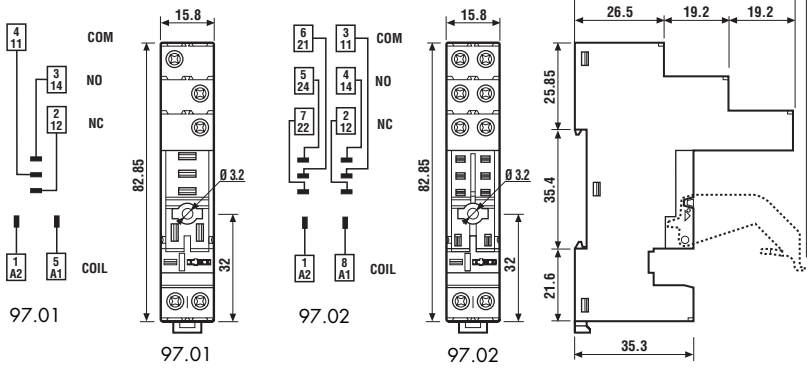
Approvals (according to type):



Screw terminal socket panel or 35 mm rail (EN 50022) mount		**97.01 (blue)**	**97.01.0 (black)**	**97.02 (blue)**	**97.02.0 (black)**
For relay type		46.61		46.52	
Accessories					
Plastic retain and release clip (supplied with socket - packaging code SPA)		097.01			
Identification tag		095.00.4			
8-way jumper link		095.18 (blue)		095.18.0 (black)	
Modules (see table below)		99.02			
Timer modules (see table below)		86.30			
Technical data					
Rated current		16 A - 250 V AC		8 A - 250 V AC	
Dielectric strength		6 kV (1.2/50 µs) between coil and contacts			
Protection category		IP 20			
Ambient temperature	°C	–40...+70 (see diagram L97)			
Screw torque	Nm	0.8			
Wire strip length	mm	8			
Max. wire size for 97.01 and 97.02 sockets		solid wire		stranded wire	
	mm²	1x6 / 2x2.5		1x4 / 2x2.5	
	AWG	1x10 / 2x14		1x12 / 2x14	

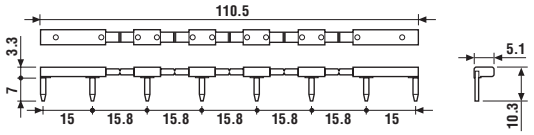
L 97 - Rated current vs ambient temperature
(for 46.61 relay / 97.01 socket combination)







8-way jumper link for 97.01 and 97.02 sockets	095.18 (blue)	095.18.0 (black)
Rated values	10 A - 250 V	





86 series timer module	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.240.0000

Approvals (according to type):



Approvals (according to type):

99.02 coil indication and EMC suppression modules for 97.01 and 97.02 sockets		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

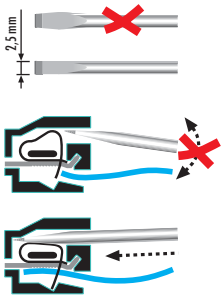
DC Modules with non-standard polarity (+A2) on request.

97 Series - Sockets and accessories for 46 series relays

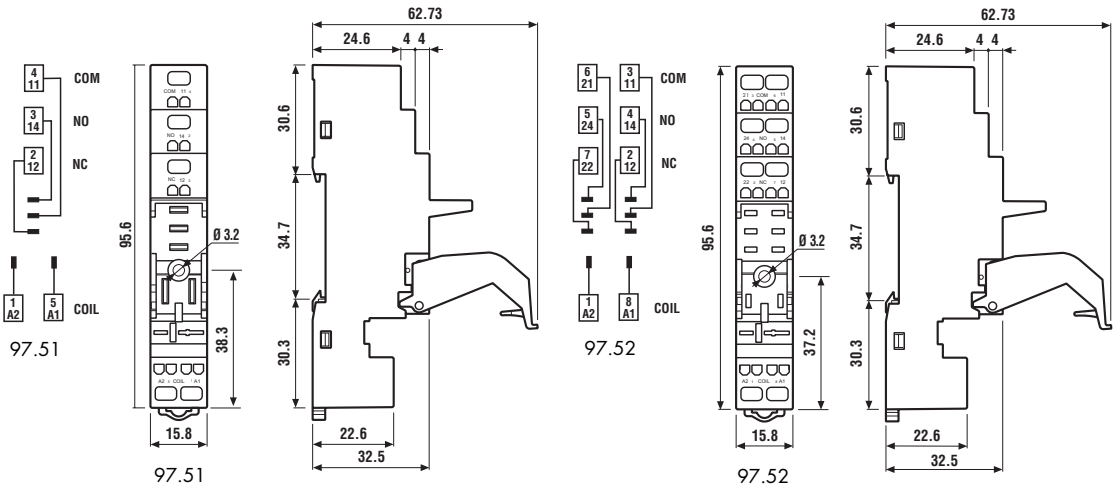

97.51

Approvals (according to type):


097.01



Screwless terminal socket panel or 35 mm rail (EN 50022) mount		**97.51 (blue)**	**97.51.0 (black)**	**97.52 (blue)**	**97.52.0 (black)**
For relay type		46.61		46.52	
Accessories					
Plastic retain and release clip (supplied with socket - packaging code SPA)		097.01			
Modules (see table below)		99.02			
Timer modules (see table below)		86.30			
Technical data					
Rated current		10 A - 250 V AC		8 A - 250 V AC	
Dielectric strength		6 kV (1.2/50 µs) between coil and contacts			
Protection category		IP 20			
Ambient temperature	°C	–25...+70			
Wire strip length	mm	8			
Max. wire size for 97.51 and 97.52 sockets		solid wire		stranded wire	
	mm²	2x(0.2...1.5)		2x(0.2...1.5)	
	AWG	2x(24...18)		2x(24...18)	




86.30

86 series timer module	
(12...24)V AC/DC; Bi-function: AI, DI; (0.05s...100h)	86.30.0.024.0000
(230...240)V AC; Bi-function: AI, DI; (0.05s...100h)	86.30.8.240.0000

Approvals (according to type):


99.02

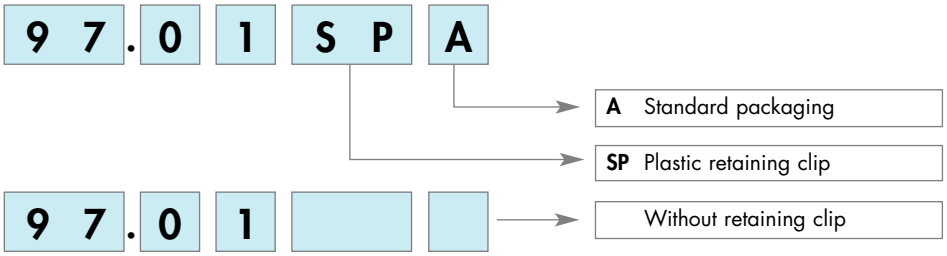
Approvals (according to type):

99.02 coil indication and EMC suppression modules for 97.51 and 97.52 sockets		
Diode (+A1, standard polarity)	(6...220)V DC	99.02.3.000.00
LED	(6...24)V DC/AC	99.02.0.024.59
LED	(28...60)V DC/AC	99.02.0.060.59
LED	(110...240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6...24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28...60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110...220)V DC	99.02.9.220.99
LED + Varistor	(6...24)V DC/AC	99.02.0.024.98
LED + Varistor	(28...60)V DC/AC	99.02.0.060.98
LED + Varistor	(110...240)V DC/AC	99.02.0.230.98
RC circuit	(6...24)V DC/AC	99.02.0.024.09
RC circuit	(28...60)V DC/AC	99.02.0.060.09
RC circuit	(110...240)V DC/AC	99.02.0.230.09
Residual current by-pass	(110...240)V AC	99.02.8.230.07

DC Modules with non-standard polarity (+A2) on request.

Packaging codes

How to code and identify retaining clip and packaging options for sockets. Example:



Unikeyic Electronics

Global Electronic Components Distributor

Click to view pricing, inventory, delivery, and lifecycle information:

finder:

RB1492500000 56.32.9.024.0000T 99.02.8.230.07 12.A2.8.230.0000 NFC 40.52.9.110.0000
41.31.8.230.0000 563290600040 99.80.0.024.98 093.08 20.23.9.012.0000 20.28.8.230.0000
39.01.0.012.0060 48.P6.7.024.1050SPA 78.50.1.230.1202 39.60.0.024.9024 39.61.0.060.0060
553390120090 553492200040 60.12.8.240.0040 22.34.0.230.4320 260180240000 606390240000
7F.20.8.120.1020 93.68.0.024 32.21.7.012.4000 623290484800 406290240000 80.21.0.240.0000
22.23.8.024.4000 563291100040